

What is claimed is:

1. A method for registering a UE with an IMS so as to allow the UE to access, over a digital communication system, an IM service to which the UE is subscribed, the method including a step in which an S-CSCF of the IMS sends an AV request message (CM1) to an HSS, the method characterized in that it includes a step in which in response to the AV request message (CM1), the HSS provides (31) in a AV request response message (CM2) a field indicating a list of substantially all services to which the UE is subscribed along with either information that allows establishing SAs for each such service or information that could be used as keying material or other input for other security mechanisms specific to each service.

2. The method as in claim 1, further characterized in that in responding to the AV request response message (CM2), the S-CSCF of the IMS adds (32) the information included in the AV request response message (CM2) to an authorization challenge message (SM4) and forwards it to an I-CSCF of the IMS.

3. The method as in claim 2, further characterized in that when the I-CSCF receives the authorization challenge message (SM4), it forwards (33) it as a forwarded authorization challenge message (SM5) to a P-CSCF of the IMS, which parses (34) the forwarded authorization challenge message (SM5), generates SPD entries and corresponding SAs for both P-CSCF and UE, inserts its SPD entries in its SPD and corresponding SAs into its SADB, and provides in an updated authorization challenge message (SM6) for the UE the SPD entries and corresponding SAs.

4. The method as in claim 3, further characterized in that after receiving the updated authorization challenge message (SM6), the UE inserts (35) the SPD entries into its SPD and

inserts the corresponding SAs into its SADB.

5. The method as in claim 4, further characterized in that a register is kept for all services to allocate numbers used to derive keys for each service or part of a service.

5 6. The method as in claim 5, further characterized in that the keys are an integrity key and a cipher key and are derived by applying a practically uni-directional mapping to an argument including the number allocated to the respective service or part of a service by the register being kept.

10 7. A method for registering a UE with an IMS so as to allow the UE to access, over a digital communication system, an IM service to which the UE is subscribed, the method including a step in which a P-CSCF of the IMS communicates to the UE an authorization challenge message (SM6), characterized in that the  
15 authorization challenge message (SM6) includes at least one SPD entry and a corresponding SA derived by the P-CSCF from information provided to the P-CSCF indicating substantially all services to which the UE is subscribed along with either information that allows establishing SAs for each such service  
20 or information that could be used as keying material or other input for other security mechanisms specific to each service, and the UE inserts (35) the at least one SPD entry into its SPD and the corresponding SA into its SADB, so that for a predetermined time any traffic between the UE and the P-CSCF is  
25 secure for the substantially all services to which the UE is subscribed.

8. The method as in claim 7, further characterized in that a register is kept for all services to allocate numbers used to derive keys for each service or part of a service.

9. The method as in claim 8, further characterized in that the keys are an integrity key and a cipher key and are derived by applying a practically uni-directional mapping to an argument including the number allocated to the respective service or part of a service by the register being kept.

10. A UE, characterized in that it is operative according to the method of claim 7.

11. A digital communication system having an IMS, characterized in that the IMS is operative according to the method of claim 1.